

Patent Claims

1. A method for producing a medicament for the treatment of chronic inflammations, **characterized in that**
 - target cells are determined in which the expression of GATA-3 mRNA is higher than in healthy body cells,
 - in vivo effective DNazymes are developed, which bind to GATA-3 mRNA and functionally inactivate it,
 - the in vivo effective DNazymes are introduced into the target cells and
 - medicaments containing the in vivo effective DNazymes are formulated.
2. DNazymes according to claim 1, **characterized in that** they comprise
 - a catalytic domain with the nucleotide sequence GGCTAGCTACAACGA or a modified sequence with comparable biological effect, which cleaves the GATA-3 mRNA at every purine:pyrimidine binding site to which it is bonded,
 - a right substrate binding domain adjoining the 3' end of the catalytic domain and
 - a left substrate binding domain adjoining the 5' end of the catalytic domain, both substrate binding domains being respectively complementary to two regions of the GATA 3 mRNA so that they hybridize with the mRNA, and
 - are active in vivo.
3. DNazymes according to claim 2, **characterized in that** they comprise the sequence hgd 40 GTGGATGGA GGCTAGCTACAACGA GTCCTTGGAG.

4. DNazymes according to the claims 2 and 3, **characterized in that** they cleave the catalytic domain of the GATA-3 mRNA at every purine:uracil binding site.
5. DNazymes according to claims 2 to 4, **characterized in that** they are stabilized against decomposition within the organism by the introduction of a 3'-3' inversion.
6. DNazymes according to claims 2 to 5, **characterized in that** they are stabilized against decomposition within the organism by the introduction of modified nucleotides or nucleotide compounds.
7. DNazymes according to claims 2 to 6, **characterized in that** they present as modification an inverse thymidine on the 3' end and/or a FAM label on the 5' end.
8. Medicament containing a DNzyme according to the claims 2 to 7 and a pharmaceutically acceptable carrier.
9. A method for producing a medicament for the treatment of chronic inflammations, **characterized in that**
 - target cells are determined in which the expression of T-bet mRNA is higher than in healthy body cells,
 - in vivo effective DNazymes are developed, which bind to T-bet mRNA and functionally inactivate it,
 - the in vivo effective DNazymes are introduced into the target cells and
 - medicaments containing the in vivo effective DNazymes are formulated.
10. DNazymes according to claim 1, **characterized in that** they comprise

- a catalytic domain with the nucleotide sequence GGCTAGCTACAACGA or a modified sequence with comparable biological effect, which cleaves the T-bet mRNA at every purine:pyrimidine binding site to which it is bonded,
 - a right substrate binding domain adjoining the 3' end of the catalytic domain and
 - a left substrate binding domain adjoining the 5' end of the catalytic domain, both substrate binding domains being respectively complementary to two regions of the GATA 3 mRNA so that they hybridize with the mRNA, and are active in vivo.
11. DNazymes according to claim 10, **characterized in that** they comprise the sequences td69 GGCAATGAA GGCTAGCTACAACGA TGGGTTTCT or td70 TCACGGCAA GGCTAGCTACAACGA GAAACTGGGT.
12. DNazymes according to the claims 10 and 11, **characterized in that** they cleave the catalytic domain of the T-bet mRNA at every purine:uracil binding site.
13. DNazymes according to claims 10 to 12, **characterized in that** they are stabilized against decomposition within the organism by the introduction of a 3'-3' inversion.
14. DNazymes according to the claims 10 to 13, **characterized in that** they are stabilized against decomposition within the organism by the introduction of modified nucleotides or nucleotide compounds.
15. DNazymes according to claims 10 to 14, **characterized in that** they present as modification an inverse thymidine on the 3' end and/or a FAM label on the 5' end.
16. Medicament containing a DNzyme according to claims 10 to 15 and a pharmaceutically acceptable carrier.

Summary

The present invention relates to a method for producing of a cell and/or tissue and/or disease phase specific medicament against chronic inflammatory diseases.

Disease, cell type, tissue and/or stage specific proteins and nucleic acids are identified with regard to their modified expression pattern and the corresponding nucleic acids are analyzed as possible attack targets for DNazymes or siRNA. What follows is a design of active specific DNazymes and siRNA which bind to the target sequence and cleave it such that a medicament against chronic inflammatory diseases and autoimmune diseases is provided.

Number of attached figures: 11

Patent application